

See Article page 838.



Commentary: Why so many sleeve resections and pneumonectomies and why the nonabsorbable suture?

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CENTRAL MESSAGE

Pneumonectomy for lung cancer should be rarely performed.

Tong and colleagues¹ have presented an interesting article on minimally invasive sleeve resections. Although my preference for a robotic platform over a video-assisted one is well known, this article does not prove its advantage. The numbers are too small and the selection bias too great. The question of robot versus video-assisted thorascopy (VATS) in my view is important but less than others. So, let's answer this one first. The obvious advantage of the robot will come out over time like any superior technique always does. It will be proven if the proper study is designed, performed, and completed; however, I suspect it will not. As VATS has been shown to be better than thoracotomy without a "prospective randomized study," so will robot be shown over VATS. Equipose is lacking for most of those who have a real opportunity to choose either platform. Surgeons have quickly voted with their feet and moved to the robot. Yes, we should practice life decisions and medicine in an evidence-based world, but not everything can or needs to be proven in a study. Many times, in life, you have to have vision and smarts and not wait for the *P* value as the world passes you by. To understand that a computerized platform or robotic system is the obvious surgical future in the United States only requires these attributes. However, to be clear, VATS

anatomic lung resections offer excellent outcomes when compared with thoracotomy, and more VATS procedures will be performed worldwide for many years to come than those performed robotically. The reason is simple. The capital cost and instrument costs of a robotic platform as well as other social issues are critical detriments that currently limit its worldwide usage as of 2019. Its distribution to the "haves" versus the "have-nots" remains problematic.

Now to the more important question. How can we perform better and greater-quality surgery for more patients with lung cancer more frequently? The true benefit of all types of surgical resection for lung cancer will need to be increasingly proven. The benefit of surgery, especially minimally invasive ones over stereotactic radio surgery, frequency ablation, and soon robotic bronchoscopic natural-orifice ablative therapies that are essentially here, is blurred when we perform poor-quality surgery. Too many surgeons provide this to too many patients too often. These nonresectional therapies are only applicable to small tumors of course. Yet, until we decide to lead and clean up our house as surgeons and improve our overall quality as a team, the debate of robot versus video-assisted is of less importance. At least both are minimally invasive. Until we stop paying and/or allowing surgeons to do a thoracotomy for lung cancer (of any types not just T1a, T1b but also for T2a and b and even those with T3 and T4 lesions), we have little to say. Until we stop routinely performing a thoracotomy instead of minimally invasive techniques for those with proven N1 disease who are N2 negative after mediastinoscopy and/or endoscopic bronchial ultrasound, we have little to say. Until

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we stop during thoracotomy instead of minimally invasive techniques even for those with postinduction N2 disease after chemotherapy, radiation, or both and for those that have had immunotherapy, we have little to say. Until we stop performing wedge resections for non-ground-glass opacity tumors instead of anatomic segmentectomy, we have little to say. Until we stop paying surgeons who “take a few lymph nodes” instead of performing a complete thoracic lymphadenectomy on at least 4-5 N2 and 2-3 N1 lymph node stations or at least a sampling at these stations, we have nothing to say. And until we stop performing pneumonectomies for large tumors, we also have little to say. This takes me to the last point of our editorial.

In this study, the authors show some numbers that are similar to ours, but some are strikingly different. They report that they performed 4965 operations, 170 pneumonectomies, and 215 sleeves over 6 years. Our experience since we started performing robotic surgery is 5574 operations, 1 pneumonectomy, and 23 sleeves over 9 years. Although we do not have all the data to compare true incidence (robots vs open, lobectomy vs sleeve, etc, we have ours), our question is why are the numbers so different: 170 versus 1 for pneumonectomy and 215 versus 23 for sleeves? Yes, we are pneumonectomy adverse after honestly reporting our own disappointing experience in these patients' quality of life at least 1 year after removal of their entire lung.² We disappointingly found a relatively large number of unhappy patients despite being alive and cancer free. This carefully done

follow-up report has influenced us greatly. But why is their sleeve incidence so much greater than ours? Are they more liberal in applying it? Do they not perform bronchoplasty? We believe that if frozen section is used, if N2 lymph nodes are sent in for frozen and if positive and if a patient requires a pneumonectomy, we stop the operation, close, and offer chemotherapy and maybe resection later. If we apply all of these techniques and if done when only absolutely necessary, the incidence of both pneumonectomy and sleeve resection should both be very low.

Finally, one last point, which is technical. We prefer an absorbable suture as opposed to a nonabsorbable suture in the airway. We believe it adds value by eliminating a foreign body out of the airway over time and may reduce stricture rates. We now use a self-locking absorbable suture and find it reduces operative time and the risk of a knot rubbing into the pulmonary artery. The authors are to be congratulated for an amazing series of 188 (215) bronchial sleeve resection with phenomenal results that clearly demonstrate their outstanding technical abilities as surgeons and as doctors.

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